SNELLEN METRIC TEST CHART
Visual acuity 6/6 (20/20) Chart no. 2

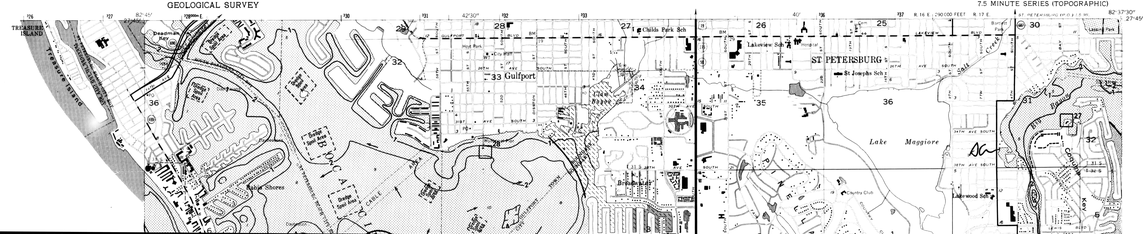
SNELLEN METRIC TEST CHART
Visual acuity 6/6 (20/20) Chart no. 2

I 49.89/2: 85 (15) map 37

ORIGINAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PASS-A-GRILLE BEACH QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)

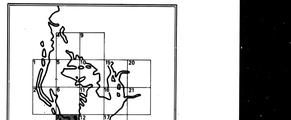


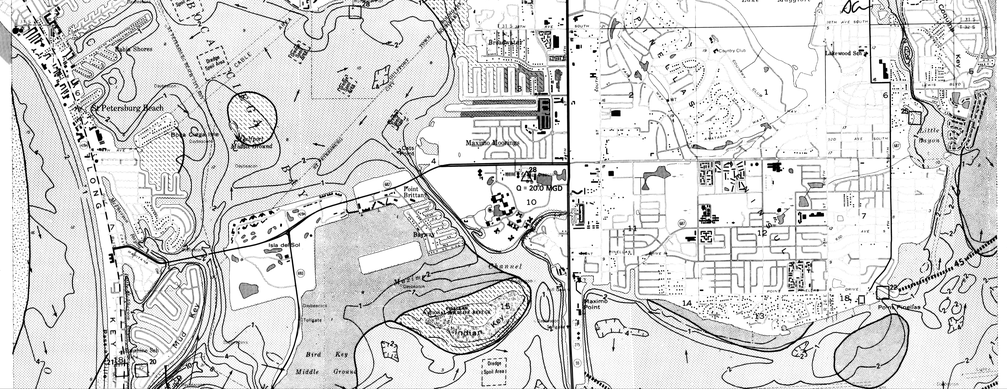
MAP B7

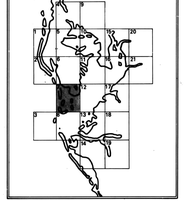
TAMPA BAY ENVIRONMENTAL ATLAS

WATER RESOURCES

PASS-A-GRILLE







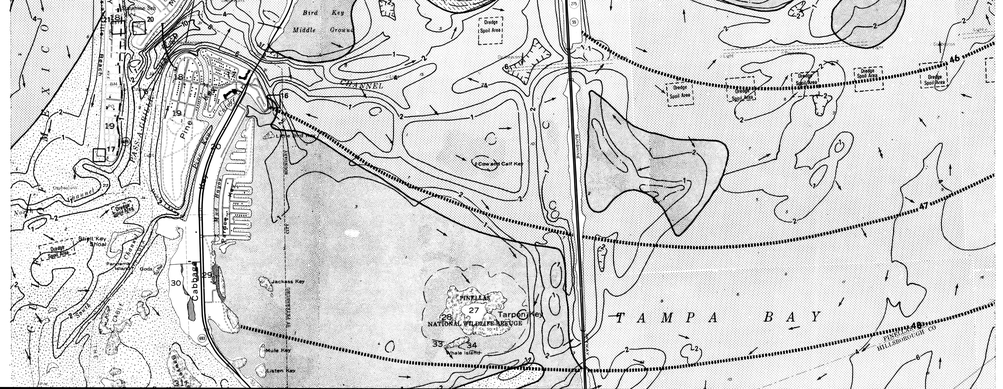
Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17, Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlay material compiled in 1984 from latest available data obtained from



Produced by U.S. Fish and Wildlife Service

Projection and 1,000 meter grid, zone 17, Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlay material compiled in 1986 from latest available data obtained from Federal, State and Local government agencies and other sources.

There is no map A19 due to a lack of data.

LEGEND

35 — MEAN ANNUAL MID-DEPTH SPECIFIC CONDUCTIVITY ISOPLETH (WATER QUALITY) CONTOUR MAP
Five year mean annual specific conductivity September 1978 - August 1983 (mmhos)

POINT SOURCE DISCHARGES *

▲10 Q=___ Industrial Point Source Discharge: D is permitted capacity in total gallons per day (tgd) or millions of gallons per day (mgd).

△10 Q=___ Municipal Point Source Discharge: D is permitted capacity in total gallons per day (tgd) or millions of gallons per day (mgd).

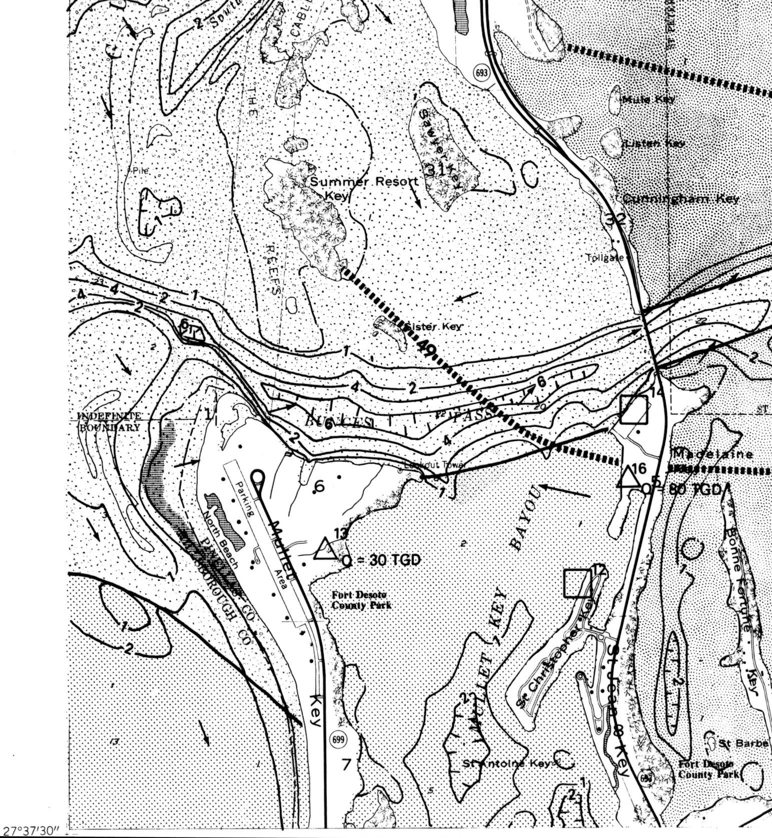
DREDGE SPOIL DISPOSAL SITES

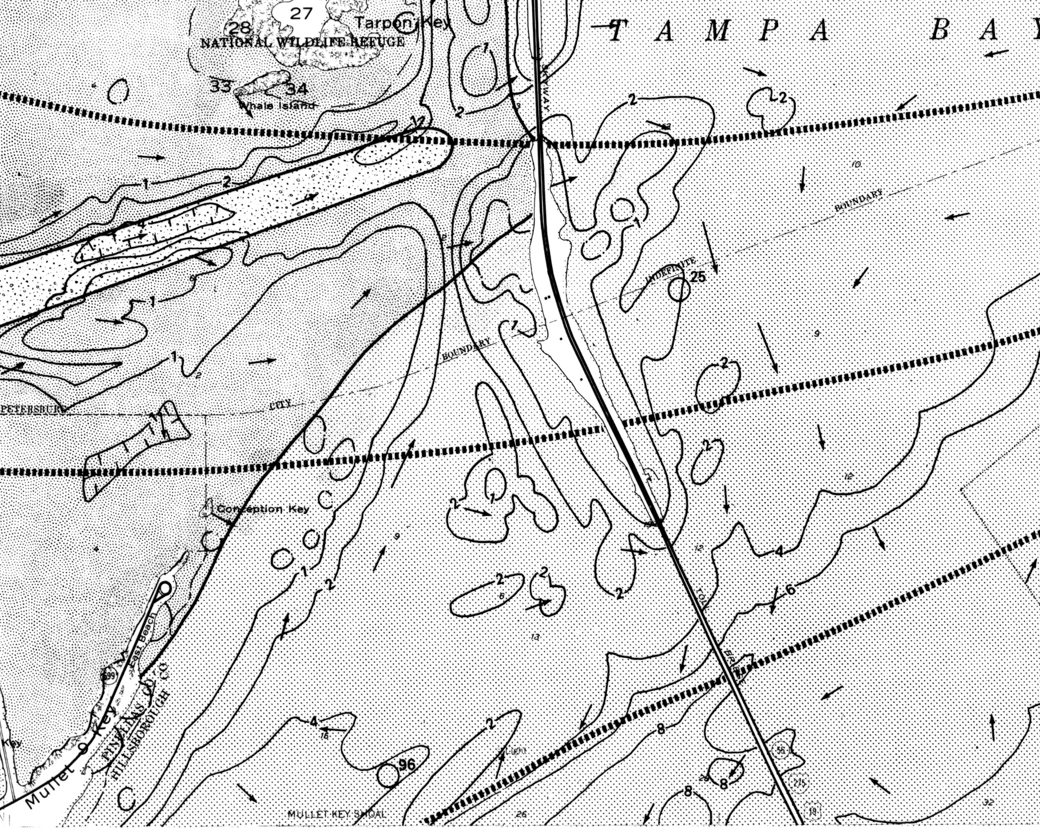
TIDE STATION *
(National Ocean Service)

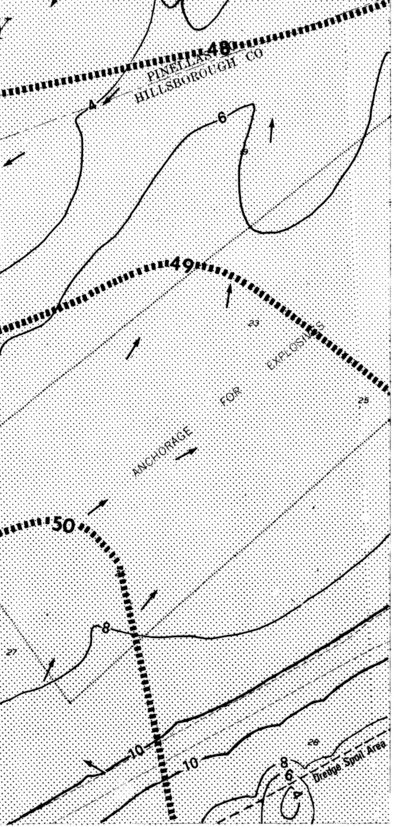
10 Active tide station. The tide station number is listed next to the symbol.

10 Inactive tide station location. The tide station number is listed next to the symbol.

WATER QUALITY SAMPLING STATION *


South
THE CABLE
THE REEFS
Pile
Summer Resort Key
Sawyer Key
Mule Key
Listen Key
Cunningham Key
Tollgate
Sister Key
49
31
32
BUNCES PASS
INDEFINITE BOUNDARY
Lookout Tower
Madelaine
14
16
Q = 80 TGD
13
Q = 30 TGD
12
Parking Area
North Beach
Mullet Key
PINELLAS CO
HILLSBOROUGH CO
Fort Desoto County Park
MULLET KEY BAYOU
St Christopher Key
St Jean Key
Bonne Fortune Key
St Barbe
St Antoine Key
693
699
7
6
27°37′30″


27
28
Tarpon Key
NATIONAL WILDLIFE REFUGE
TAMPA BAY
33
34
Whale Island
SKYWAY
BOUNDARY
INDEFINITE
25
PETERSBURG
CITY
BOUNDARY
Conception Key
Mullet Key
East Beach
699
PINELLAS CO.
HILLSBOROUGH CO.
Key
TOLL BRIDGE
55
275
19
Light
96
MULLET KEY SHOAL
1
2
4
6
8
9
10
12
13
16
26
32


PINELLAS
HILLSBOROUGH CO
48
49
50
4
6
8
10
23
25
26
27
ANCHORAGE FOR EXPLOSIVES
Dredge Spoil Area
27°37′30″
82°37′30″

TIDE STATION *
(National Ocean Service)

☼10 Active tide station. The tide station number is listed next to the symbol.

☐10 Inactive tide station location. The tide station number is listed next to the symbol.

○10 **WATER QUALITY SAMPLING STATION ***
(Hillsborough County Environmental Protection Commission)
Five year seasonal means, Sept. 1978 - Aug. 1983

——2—— **BATHYMETRY**

The contour interval is 2.0 meters with an initial 1.0 meter supplemental contour line added to better define shoals and inshore tidal flats.

-·-·-·- **INTERTIDAL ZONE**

This zone demarcates the area exposed and flooded by the tides and occurs between the line and the shore.

GENERALIZED SEDIMENT MAP

- ▨ Sand
- ▨ Shelly Sand
- ▨ Silty Sand
- ▨ Clayey Sand
- ▨ Sandy Clay
- ▨ Silt

NET TIDAL CURRENT

Resultant tidal current. The direction is indicated by the arrow and the discharge range is feet per second.

- → 0.01 - 0.10 ft/sec
- → 0.11 - 0.20 ft/sec
- → 0.21 - 0.30 ft/sec
- → 0.31 - 0.50 ft/sec
- → > 0.50 ft/sec

F **FRESHWATER/SALTWATER INTERFACE**

Key
699
7
St Antoine Key
St Christ
St Barbe K
Fort Desoto County Park
27°37′30″
82°45′

THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION

SALINITY: Conductivity for Tampa Bay water quality sampling stations Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

POINT SOURCE DISCHARGES: Computer printout of industrial and municipal point source discharges in West Central Florida. Florida Dept. of Environmental Regulation, 1983.

DREDGE SPOIL DISPOSAL AREAS: Dredge and Spoil easement location maps. Florida Dept. of Natural Resources.

N.O.S. TIDE STATIONS: Index of tide stations for the state of Florida. National Ocean Service, Rockville, Md. 1981.

WATER QUALITY: Total chlorophyll, conductivity, turbidity, temperature and total nitrogen data for Tampa Bay water quality stations, Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

BATHYMETRIC: Bathymetric map to St. Petersburg Quadrangle, N.O.S. 1978.

INTERTIDAL ZONE: Nautical Chart #'s 11410, 11413, 11414 and 11425. N.O.S., Rockville, Md. 1983.

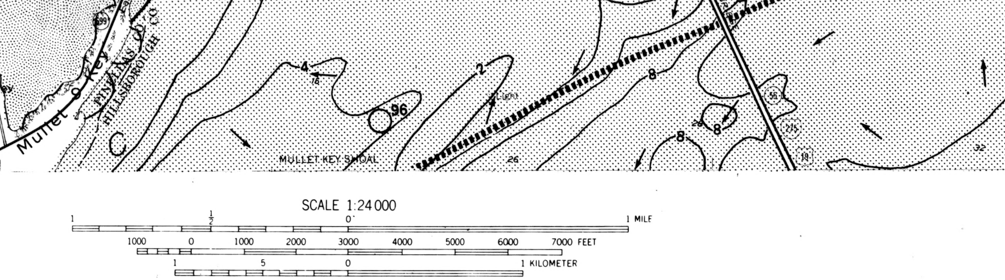
SEDIMENTS: Sediments, oceanographic observations and Floristic data for Tampa Bay, Florida and adjacent waters, 1961-1965, Taylor and Saloman, 1969.

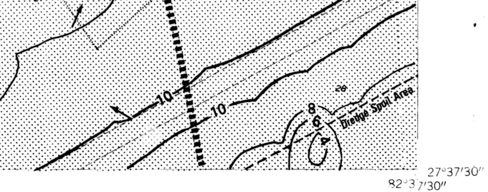
TIDAL CURRENTS: Changes in tidal flow, circulation and flushing caused by dredge and fill in Tampa Bay, Florida. U.S. Geological Survey Open File Report #84-447. Goodwin, 1984.

FRESHWATER-SALTWATER INTERFACE: Position of the Freshwater-Saltwater interface in the upper part of the Floridan aquifer, Southwest Florida, 1979. U.S.G.S. water resources open-file report 82-90. Causseaux and Fretwell, 1982.

FOR COMPLETE REFERENCE SEE MAP NARRATIVE

MICROCOPY RESOLUTION TEST C
NBS - 1010a
(ANSI and ISO TEST CHART N





Resultant tidal current. The direction is indicated by the arrow and the discharge range is feet per second.

→ 0.01 - 0.10 ft/sec

→ 0.11 - 0.20 ft/sec

→ 0.21 - 0.30 ft/sec

→ 0.31 - 0.50 ft/sec

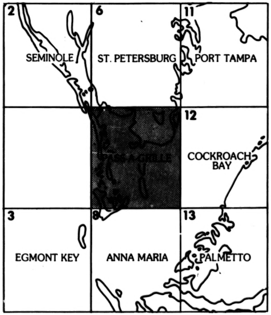
→ > 0.50 ft/sec

F
▬ ▬ ▬ ▬
S

FRESHWATER/SALTWATER INTERFACE

(U.S. Geological Survey 1979)
250 mg/l line of equal chloride
concentration in the upper part
of Floridan aquifer.

**Symbols appearing with numbers are described more fully in the narrative*



Supplemental Legend for Water Quality Stations on This Map

Station #25 Lat. 27°39′13″ Long. 82°40′13″

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	19.0	20.8	26.7	11.2	19.4
Conductivity (mmhos)	46983	47555	47266	51095	48225
Turbidity (NTU'S)	4.8	4.0	5.4	3.6	4.4
Temperature (°C)	22.9	30.0	25.0	16.6	23.6
Total Nitrogen (mg/l)	0.51	0.53	0.65	0.39	0.52

Station #96 Lat. 27°38′18″ Long. 82°41′18″

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	17.6	19.7	22.2	14.4	18.5
Conductivity (mmhos)	51167	49944	39807	52270	48310
Turbidity (NTU'S)	5.6	3.6	7.1	4.6	5.2
Temperature (°C)	22.9	30.1	25.2	16.4	23.6
Total Nitrogen (mg/l)	0.45	0.65	0.85	0.51	0.62

Note: Specific conductivity values on the supplemental legend should be in µmhos.

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BEST AVAILABLE COPY

OCOPY RESOLUTION TEST CHART
NBS - 1010a
SI and ISO TEST CHART No. 2)
2.5
2.8
2.2
2.0

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A
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